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NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	FEB 27	New STN AnaVist pricing effective March 1, 2006
NEWS	4	MAY 10	CA/CAPLUS enhanced with 1900-1906 U.S. patent records
NEWS	5	MAY 11	KOREAPAT updates resume
NEWS	6	MAY 19	Derwent World Patents Index to be reloaded and enhanced
NEWS	7	MAY 30	IPC 8 Rolled-up Core codes added to CA/CAPLUS and USPATFULL/USPAT2
NEWS	8	MAY 30	The F-Term thesaurus is now available in CA/CAPLUS
NEWS	9	JUN 02	The first reclassification of IPC codes now complete in INPADOC
NEWS	10	JUN 26	TULSA/TULSA2 reloaded and enhanced with new search and and display fields
NEWS	11	JUN 28	Price changes in full-text patent databases EPFULL and PCTFULL
NEWS	12	JUL 11	CHEMSAFE reloaded and enhanced
NEWS	13	JUL 14	FSTA enhanced with Japanese patents
NEWS	14	JUL 19	Coverage of Research Disclosure reinstated in DWPI
NEWS	15	AUG 09	INSPEC enhanced with 1898-1968 archive
NEWS	16	AUG 28	ADISCTI Reloaded and Enhanced
NEWS	17	AUG 30	CA(SM)/CAPLUS(SM) Austrian patent law changes
NEWS	18	SEP 11	CA/CAPLUS enhanced with more pre-1907 records
NEWS	19	SEP 21	CA/CAPLUS fields enhanced with simultaneous left and right truncation

NEWS EXPRESS JUNE 30 CURRENT WINDOWS VERSION IS V8.01b, CURRENT  
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
AND CURRENT DISCOVER FILE IS DATED 26 JUNE 2006.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8
NEWS X25	X.25 communication option no longer available

Enter NEWS followed by the item number or name to see news on that  
specific topic.

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FILE 'HOME' ENTERED AT 17:04:24 ON 22 SEP 2006

=> file medline, uspatful, dgene, embase, wpids, jicst, fsta, cen, ceaba

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FULL ESTIMATED COST

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FILE 'MEDLINE' ENTERED AT 17:05:06 ON 22 SEP 2006

FILE 'USPATFULL' ENTERED AT 17:05:06 ON 22 SEP 2006

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FILE 'JICST-EPLUS' ENTERED AT 17:05:06 ON 22 SEP 2006

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FILE 'FSTA' ENTERED AT 17:05:06 ON 22 SEP 2006

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FILE 'CEABA-VTB' ENTERED AT 17:05:06 ON 22 SEP 2006

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=> s alkaline protease

L1 5294 ALKALINE PROTEASE

=> s l1 and mutation

L2 1086 L1 AND MUTATION

=> s l2 and (15his)

L3 0 L2 AND (15HIS)

=> s l2 and (position 15 His)

L4 0 L2 AND (POSITION 15 HIS)

=> s l2 and (position 405ASP)

L5 0 L2 AND (POSITION 405ASP)

=> s l2 and (S187)

L6 20 L2 AND (S187)

=> s l2 and (D405)

L7 2 L2 AND (D405)

=> d l7 ti abs ibib tot

L7 ANSWER 1 OF 2 USPATFULL on STN

TI Lysosomal enzymes and lysosomal enzyme activators

AB A polypeptide selected from the group of lysosomal enzymes and lysosomal enzyme activators, comprising at least one introduced glycosylation site as compared to a corresponding parent enzyme or activator. By introducing additional glycosylation sites the resulting glycosylated lysosomal enzyme or activator obtains improved in vivo activity and

thereby provides for improved treatment of lysosomal storage diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2004:12647 USPATFULL  
TITLE: Lysosomal enzymes and lysosomal enzyme activators  
INVENTOR(S): Okkels, Jens Sigurd, Vedbaek, DENMARK  
Jensen, Anne Dam, Copenhagen NV, DENMARK  
Halkier, Torben, Solroed Strand, DENMARK  
Jensen, Rikke Bolding, Skibby, DENMARK  
Schambye, Hans Thalsgard, Frederiksberg, DENMARK  
PATENT ASSIGNEE(S): Maxygen ApS (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004009165	A1	20040115
APPLICATION INFO.:	US 2002-330697	A1	20021227 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2000-753126, filed on 29 Dec 2000, ABANDONED		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 2000-1027	20000630
	DK 2000-865	20000602
	DK 2000-866	20000602
	DK 1999-1891	19991230
	US 2000-217497P	20000711 (60)
	US 2000-211124P	20000612 (60)
	US 2000-210984P	20000612 (60)
	US 2000-174652P	20000106 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	MAXYGEN, INC., INTELLECTUAL PROPERTY DEPARTMENT, 515 GALVESTON DRIVE, RED WOOD CITY, CA, 94063	
NUMBER OF CLAIMS:	58	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	9 Drawing Page(s)	
LINE COUNT:	4809	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 2 OF 2 USPATFULL on STN  
TI Lysosomal enzymes and lysosomal enzyme activators  
AB A polypeptide selected from the group of lysosomal enzymes and lysosomal enzyme activators, comprising at least one introduced glycosylation site as compared to a corresponding parent enzyme or activator. By introducing additional glycosylation sites the resulting glycosylated lysosomal enzyme or activator obtains improved in vivo activity and thereby provides for improved treatment of lysosomal storage diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2002:235036 USPATFULL  
TITLE: Lysosomal enzymes and lysosomal enzyme activators  
INVENTOR(S): Okkels, Jens Sigurd, Vedbaek, DENMARK  
Jensen, Anne Dam, Copenhagen, DENMARK  
Halkier, Torben, Solroed Strand, DENMARK  
Jensen, Rikke Bolding, Skibby, DENMARK  
Schambye, Hans Thalsgard, Frederiksberg, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002127219	A1	20020912
APPLICATION INFO.:	US 2000-753126	A1	20001229 (9)

NUMBER	DATE
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PRIORITY INFORMATION:  DK 1999-1891      19991230
                       DK 2000-865       20000602
                       DK 2000-866       20000602
                       DK 2000-1027      20000630
                       US 2000-174652P   20000106 (60)
                       US 2000-210984P   20000612 (60)
                       US 2000-211124P   20000612 (60)
                       US 2000-217497P   20000711 (60)

DOCUMENT TYPE:         Utility
FILE SEGMENT:          APPLICATION
LEGAL REPRESENTATIVE:  LAW OFFICES OF JONATHAN ALAN QUINE, P O BOX 458,
                       ALAMEDA, CA, 94501

NUMBER OF CLAIMS:      58
EXEMPLARY CLAIM:       1
NUMBER OF DRAWINGS:    9 Drawing Page(s)
LINE COUNT:            4771
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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=> d his

(FILE 'HOME' ENTERED AT 17:04:24 ON 22 SEP 2006)

FILE 'MEDLINE, USPATFULL, DGENE, EMBASE, WPIDS, JICST-EPLUS, FSTA,  
CEABA-VTB' ENTERED AT 17:05:06 ON 22 SEP 2006

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L1      5294 S ALKALINE PROTEASE
L2      1086 S L1 AND MUTATION
L3        0 S L2 AND (15HIS)
L4        0 S L2 AND (POSITION 15 HIS)
L5        0 S L2 AND (POSITION 405ASP)
L6       20 S L2 AND (S187)
L7        2 S L2 AND (D405)

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=> d l6 ti abs ibib tot

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L6      ANSWER 1 OF 20  USPATFULL on STN
TI       Protein variants having modified immunogenicity
AB       The present invention relates to a method of selecting a protein variant
         having modified immunogenicity as compared to the parent protein
         comprising the steps obtaining antibody binding peptide sequences, using
         the sequences to localise epitope sequences on the 3-dimensional
         structure of parent protein, defining an epitope area including amino
         acids situated within 5 Å from the epitope amino acids constituting
         the epitope sequence, changing one or more of the amino acids defining
         the epitope area of the parent protein by genetical engineering
         mutations of a DNA sequence encoding the parent protein, introducing the
         mutated DNA sequence into a suitable host, culturing said host and
         expressing the protein variant, and evaluating the immunogenicity of the
         protein variant using the parent protein as reference. The invention
         further relates to the protein variant and use thereof, as well as to a
         method for producing said protein variant.

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CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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ACCESSION NUMBER:      2005:208966  USPATFULL
TITLE:                 Protein variants having modified immunogenicity
INVENTOR(S):           Roggen, Erwin Ludo, Lyngby, DENMARK
                       Ernst, Steffen, Broenshoej, DENMARK
                       Svendsen, Allan, Hoersholm, DENMARK
                       Friis, Esben Peter, Valby, DENMARK
                       Osten, Claus Von Der, Lyngby, DENMARK
PATENT ASSIGNEE(S):    Novozymes A/S, Bagsvaerd, DENMARK (non-U.S.
                       corporation)

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	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005181446	A1	20050818
APPLICATION INFO.:	US 2001-957806	A1	20010921 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	WO 2001-DK293	20010430
	DK 2000-707	20000428
	DK 2001-327	20010228
	US 2000-203345P	20000510 (60)
	US 2001-277817P	20010321 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110, US	
NUMBER OF CLAIMS:	134	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	1 Drawing Page(s)	
LINE COUNT:	12950	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L6 ANSWER 2 OF 20 USPATFULL on STN

TI Alpha-amylase mutants

AB The present invention relates to a method of constructing a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has  $\alpha$ -amylase activity and at least one altered property as compared to the parent  $\alpha$ -amylase, comprises i) analysing the structure of the parent Termamyl-like  $\alpha$ -amylase to identify at least one amino acid residue or at least one structural part of the Termamyl-like  $\alpha$ -amylase structure, which amino acid residue or structural part is believed to be of relevance for altering the property of the parent Termamyl-like  $\alpha$ -amylase (as evaluated on the basis of structural or functional considerations), ii) constructing a Termamyl-like  $\alpha$ -amylase variant, which as compared to the parent Termamyl-like  $\alpha$ -amylase, has been modified in the amino acid residue or structural part identified in i) so as to alter the property, and, optionally, iii) testing the resulting Termamyl-like  $\alpha$ -amylase variant with respect to the property in question.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2005:196345 USPATFULL

TITLE: Alpha-amylase mutants

INVENTOR(S): Svendsen, Allan, Birkerød, DENMARK  
 Bisgard-Frantzen, Henrik, Lyngby, DENMARK  
 Borchert, Torben Vedel, Copenhagen N, DENMARK

PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005170487	A1	20050804
APPLICATION INFO.:	US 2005-64196	A1	20050222 (11)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2002-184771, filed on 28 Jun 2002, ABANDONED Continuation of Ser. No. US 2000-636252, filed on 10 Aug 2000, GRANTED, Pat. No. US 6440716 Continuation of Ser. No. US 1999-327563, filed on 8 Jun 1999, PENDING Continuation of Ser. No. US 1996-683838, filed on 18 Jul 1996, GRANTED, Pat. No. US 6022724 Continuation-in-part of Ser. No. US 1996-600908, filed on 13 Feb 1996, GRANTED, Pat. No. US 5989169		

	NUMBER	DATE
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PRIORITY INFORMATION:	DK 1995-128	19950203
	DK 1995-1192	19951023
	DK 1995-1256	19951110
	WO 1996-DK57	19960205
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110, US	
NUMBER OF CLAIMS:	21	
EXEMPLARY CLAIM:	1-69	
NUMBER OF DRAWINGS:	11 Drawing Page(s)	
LINE COUNT:	3625	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L6 ANSWER 3 OF 20 USPATFULL on STN

TI Alpha-amylase mutants

AB The invention relates to a variant of a parent Termamyl-like a-amylase, which variant has a-amylase activity and exhibits an alteration in at least one of the following properties relative to said parent a-amylase: substrate specificity, substrate binding, substrate cleavage pattern, thermal stability, pH/activity profile, pH/stability profile, stability towards oxidation, Ca.sup.2+ dependency and specific activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2005:138046 USPATFULL

TITLE: Alpha-amylase mutants

INVENTOR(S): Svendsen, Allan, Birkerod, DENMARK  
Borchert, Torben Vedel, Jyllinge, DENMARK  
Bisgard-Frantzen, Henrik, Bagsvaerd, DENMARK

PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
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PATENT INFORMATION:	US 2005118695	A1	20050602
APPLICATION INFO.:	US 2004-980759	A1	20041103 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2003-644187, filed on 20 Aug 2003, ABANDONED Division of Ser. No. US 2002-186042, filed on 28 Jun 2002, GRANTED, Pat. No. US 6642044 Division of Ser. No. US 2000-672459, filed on 28 Sep 2000, GRANTED, Pat. No. US 6436888 Continuation of Ser. No. US 1998-182859, filed on 29 Oct 1998, GRANTED, Pat. No. US 6143708 Continuation of Ser. No. WO 1997-DK197, filed on 30 Apr 1997, UNKNOWN		

	NUMBER	DATE
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PRIORITY INFORMATION:	DK 1996-515	19960430
	DK 1996-712	19960628
	DK 1996-775	19960711
	DK 1996-1263	19961108
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110, US	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1-23	
NUMBER OF DRAWINGS:	9 Drawing Page(s)	
LINE COUNT:	2817	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L6 ANSWER 4 OF 20 USPATFULL on STN

TI Alpha-amylase variants

AB The present invention relates to a method of constructing a variant of a parent Termamyl-like alpha-amylase, which variant has alpha-amylase activity and at least one altered property as compared to the parent alpha-amylase, comprising i) analyzing the structure of the parent Termamyl-like alpha-amylase to identify at least one amino acid residue or at least one structural part of the Termamyl-like alpha-amylase structure, which amino acid residue or structural part is believed to be of relevance for altering the property of the parent Termamyl-like alpha-amylase (as evaluated on the basis of structural or functional considerations), ii) constructing a Termamyl-like alpha-amylase variant, which as compared to the parent Termamyl-like alpha-amylase, has been modified in the amino acid residue or structural part identified in i) so as to alter the property, and iii) testing the resulting Termamyl-like alpha-amylase variant for the property in question.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2005:23342 USPATFULL

TITLE: Alpha-amylase variants

INVENTOR(S): Svendsen, Allan, Birkerød, DENMARK  
Bisgard-Frantzen, Henrik, Lyngby, DENMARK  
Borchert, Torben, Copenhagen N, DENMARK

PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK, DK-2880 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2005019886	A1	20050127
APPLICATION INFO.:	US 2004-926720	A1	20040826 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-325603, filed on 3 Jun 1999, ABANDONED Continuation of Ser. No. US 1996-600908, filed on 13 Feb 1996, GRANTED, Pat. No. US 5989169 Continuation of Ser. No. WO 1996-DK57, filed on 5 Feb 1996, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1995-128	19950203
	DK 1995-1192	19951023
	DK 1995-1256	19951110
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	CLM-01-70	
NUMBER OF DRAWINGS:	13 Drawing Page(s)	
LINE COUNT:	3521	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 5 OF 20 USPATFULL on STN

TI Alpha-amylase variant with altered properties

AB The present invention relates to variants (mutants) of parent Termamyl-like alpha-amylases, which variant has alpha-amylase activity and exhibits altered properties relative to the parent alpha-amylase.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2004:126973 USPATFULL

TITLE: Alpha-amylase variant with altered properties

INVENTOR(S): Svendsen, Allan, Horsholm, DENMARK  
Andersen, Casten, Vaerloese, DENMARK

Thisted, Thomas, Frederikssund, DENMARK  
Von Der Osten, Claus, Lyngby, DENMARK

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004096952	A1	20040520
APPLICATION INFO.:	US 2003-477725	A1	20031114 (10)
	WO 2002-DK319		20020515

	NUMBER	DATE
PRIORITY INFORMATION:	DK 2001-760	20010515
	DK 2001-981	20010622
	DK 2001-982	20010622
	DK 2001-998	20010626
	DK 2001-999	20010626
	DK 2001-1443	20011002
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110	
NUMBER OF CLAIMS:	20	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Page(s)	
LINE COUNT:	5893	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L6 ANSWER 6 OF 20 USPATFULL on STN

TI Alpha-amylase mutants

AB The invention relates to a variant of a parent Termamyl-like a-amylase, which variant has a-amylase activity and exhibits an alteration in at least one of the following properties relative to said parent a-amylase: substrate specificity, substrate binding, substrate cleavage pattern, thermal stability, pH/activity profile, pH/stability profile, stability towards oxidation, Ca.sup.2+ dependency and specific activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2004:63833 USPATFULL

TITLE: Alpha-amylase mutants

INVENTOR(S): Svendsen, Allan, Birkerod, DENMARK  
Borchert, Torben Vedel, Jyllinge, DENMARK  
Bisgard-Frantzen, Henrik, Bagsvaerd, DENMARK

PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004048351	A1	20040311
APPLICATION INFO.:	US 2003-644187	A1	20030820 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2002-186042, filed on 28 Jun 2002, GRANTED, Pat. No. US 6642044 Division of Ser. No. US 2000-672459, filed on 28 Sep 2000, GRANTED, Pat. No. US 6436888 Continuation of Ser. No. US 1998-182859, filed on 29 Oct 1998, GRANTED, Pat. No. US 6143708 Continuation of Ser. No. WO 1997-DK197, filed on 30 Apr 1997, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1996-515	19960430
	DK 1996-712	19960628
	DK 1996-775	19960711
	DK 1996-1263	19961108



DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110  
 NUMBER OF CLAIMS: 23  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 9 Drawing Page(s)  
 LINE COUNT: 2902  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 7 OF 20 USPATFULL on STN

TI ALPHA-AMYLASE MUTANTS

AB The invention relates to a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has  $\alpha$ -amylase activity and exhibits an alteration in at least one of the following properties relative to said parent  $\alpha$ -amylase: substrate specificity, substrate binding, substrate cleavage pattern, thermal stability, pH/activity profile, pH/stability profile, stability towards oxidation, Ca.sup.2+ dependency and specific activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:244823 USPATFULL

TITLE: ALPHA-AMYLASE MUTANTS

INVENTOR(S): Svendsen, Allan, Birkerod, DENMARK  
 Borchert, Torben Vedel, Jyllinge, DENMARK  
 Bisgard-Frantzen, Henrik, Bagsvaerd, DENMARK

PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK, DK-2880 (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003171236	A1	20030911
	US 6642044	B2	20031104
APPLICATION INFO.:	US 2002-186042	A1	20020628 (10)
RELATED APPLN. INFO.:	Division of Ser. No. US 2000-672459, filed on 28 Sep 2000, GRANTED, Pat. No. US 6436888 Continuation of Ser. No. US 1998-182859, filed on 29 Oct 1998, GRANTED, Pat. No. US 6143708 Continuation of Ser. No. WO 1997-DK197, filed on 30 Apr 1997, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1996-515	19960430
	DK 1996-712	19960628
	DK 1996-775	19960711
	DK 1996-1263	19961108

DOCUMENT TYPE: Utility  
 FILE SEGMENT: APPLICATION  
 LEGAL REPRESENTATIVE: NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110  
 NUMBER OF CLAIMS: 23  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 9 Drawing Page(s)  
 LINE COUNT: 2983  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 8 OF 20 USPATFULL on STN

TI Alpha-amylase mutants

AB The present invention relates to a method of constructing a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has  $\alpha$ -amylase activity and at least one altered property as compared to the parent  $\alpha$ -amylase, comprises

i) analysing the structure of the parent Termamyl-like  $\alpha$ -amylase

to identify at least one amino acid residue or at least one structural part of the Termamyl-like  $\alpha$ -amylase structure, which amino acid residue or structural part is believed to be of relevance for altering the property of the parent Termamyl-like  $\alpha$ -amylase (as evaluated on the basis of structural or functional considerations),

ii) constructing a Termamyl-like  $\alpha$ -amylase variant, which as compared to the parent Termamyl-like  $\alpha$ -amylase, has been modified in the amino acid residue or structural part identified in i) so as to alter the property, and, optionally,

iii) testing the resulting Termamyl-like  $\alpha$ -amylase variant with respect to the property in question.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2003:244360 USPATFULL  
TITLE: Alpha-amylase mutants  
INVENTOR(S): Svendsen, Allan, Birkerød, DENMARK  
Bisgard-Frantzen, Henrik, Lyngby, DENMARK  
Borchert, Torben Vedel, Copenhagen N, DENMARK  
PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003170769	A1	20030911
APPLICATION INFO.:	US 2002-184771	A1	20020628 (10)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 2000-636252, filed on 10 Aug 2000, GRANTED, Pat. No. US 6440716 Continuation of Ser. No. US 1999-327563, filed on 8 Jun 1999, PENDING Continuation of Ser. No. US 1996-683838, filed on 18 Jul 1996, GRANTED, Pat. No. US 6022724 Continuation-in-part of Ser. No. US 1996-600908, filed on 13 Feb 1996, GRANTED, Pat. No. US 5989169 A 371 of International Ser. No. WO 1996-DK57, filed on 5 Feb 1996, UNKNOWN		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1995-128	19950203
	DK 1995-1192	19951023
	DK 1995-1256	19951110
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	APPLICATION	
LEGAL REPRESENTATIVE:	NOVOZYMES NORTH AMERICA, INC., 500 FIFTH AVENUE, SUITE 1600, NEW YORK, NY, 10110	
NUMBER OF CLAIMS:	70	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Page(s)	
LINE COUNT:	4217	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 9 OF 20 USPATFULL on STN

TI  $\alpha$ -amylase mutants

AB The present invention relates to a method of constructing a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has  $\alpha$ -amylase activity and at least one altered property as compared to the parent  $\alpha$ -amylase, comprises

i) analysing the structure of the parent Termamyl-like  $\alpha$ -amylase to identify at least one amino acid residue or at least one structural part of the Termamyl-like  $\alpha$ -amylase structure, which amino acid residue or structural part is believed to be of relevance for altering

the property of the parent Termamyl-like  $\alpha$ -amylase (as evaluated on the basis of structural or functional considerations),

ii) constructing a Termamyl-like  $\alpha$ -amylase variant, which as compared to the parent Termamyl-like  $\alpha$ -amylase, has been modified in the amino acid residue or structural part identified in i) so as to alter the property, and, optionally,

iii) testing the resulting Termamyl-like  $\alpha$ -amylase variant with respect to the property in question.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2002:217067 USPATFULL

TITLE:  $\alpha$ -amylase mutants

INVENTOR(S): Svendsen, Allan, Birkerød, DENMARK  
Bisgaard-Frantzen, Henrik, Lyngby, DENMARK  
Borchert, Torben Vedel, Copenhagen, DENMARK

PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6440716	B1	20020827
APPLICATION INFO.:	US 2000-636252		20000810 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1999-327563, filed on 8 Jun 1999 Continuation of Ser. No. US 1996-683838, filed on 18 Jul 1996, now patented, Pat. No. US 6022724 Continuation-in-part of Ser. No. US 600908, now patented, Pat. No. US 5989169		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1995-128	19950203
	DK 1995-1192	19951023
	DK 1995-1256	19951110
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Slobodyansky, Elizabeth	
LEGAL REPRESENTATIVE:	Lambiris, Elias, Garbell, Jason	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	10 Drawing Figure(s); 11 Drawing Page(s)	
LINE COUNT:	3562	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 10 OF 20 USPATFULL on STN

TI  $\alpha$ -amylase mutants

AB The invention relates to a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has  $\alpha$ -amylase activity and exhibits an alteration in at least one of the following properties relative to parent  $\alpha$ -amylase: substrate specificity, substrate binding, substrate cleavage pattern, thermal stability, pH/activity profile, pH/stability profile, stability towards oxidation,  $\text{Ca}^{2+}$  dependency and specific activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2002:209492 USPATFULL

TITLE:  $\alpha$ -amylase mutants

INVENTOR(S): Svendsen, Allan, Birkerød, DENMARK  
Borchert, Torben Vedel, Jyllinge, DENMARK  
Bisgaard-Frantzen, Henrik, Bagsvaerd, DENMARK

PATENT ASSIGNEE(S): Novozymes A/S, Bagsvaerd, DENMARK (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6436888	B1	20020820
APPLICATION INFO.:	US 2000-672459		20000928 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1998-182859, filed on 29 Oct 1998, now patented, Pat. No. US 6143708		
	Continuation of Ser. No. WO 1997-DK197, filed on 30 Apr 1997		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1996-515	19960430
	DK 1996-712	19960628
	DK 1996-775	19960711
	DK 1996-1263	19961108
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	GRANTED	
PRIMARY EXAMINER:	Saldha, Tekchand	
LEGAL REPRESENTATIVE:	Lambiris, Elias, Garbell, Jason	
NUMBER OF CLAIMS:	16	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	9 Drawing Figure(s); 9 Drawing Page(s)	
LINE COUNT:	2788	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		

L6 ANSWER 11 OF 20 USPATFULL on STN

TI Mutant  $\alpha$ -amylase

AB Novel  $\alpha$ -amylase enzymes are disclosed having a substitution equivalent to G475R in *Bacillus licheniformis*. The disclosed  $\alpha$ -amylase enzymes show improved specific activity and starch hydrolysis performance. Also provided are polynucleotides encoding such enzymes, expression vectors including such polynucleotides, host cells transformed with such expression vectors, and the use of such enzymes in detergent compositions.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2001:48008 USPATFULL

TITLE: Mutant  $\alpha$ -amylase

INVENTOR(S): Caldwell, Robert M., San Carlos, CA, United States  
 Mitchinson, Colin, Half Moon Bay, CA, United States  
 Ropp, Traci H, San Francisco, CA, United States

PATENT ASSIGNEE(S): Genecor International, Inc., Rochester, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6211134	B1	20010403
APPLICATION INFO.:	US 1997-985659		19971209 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1996-645971, filed on 14 May 1996, now patented, Pat. No. US 5763385		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Fries, Kery		
LEGAL REPRESENTATIVE:	Stone, Christopher L.		
NUMBER OF CLAIMS:	17		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	14 Drawing Figure(s); 14 Drawing Page(s)		
LINE COUNT:	918		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			

L6 ANSWER 12 OF 20 USPATFULL on STN

TI  $\alpha$ -amylase mutants

AB The invention relates to a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has a-amylase activity and exhibits an alteration in at least one of the following properties relative to said parent a-amylase: substrate specificity, substrate binding, substrate cleavage pattern, thermal stability, pH/activity profile, pH/stability profile, stability towards oxidation, Ca.sup.2+ dependency and specific activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:150128 USPATFULL  
TITLE:  $\alpha$ -amylase mutants  
INVENTOR(S): Svendsen, Allan, Birker.o slashed.d, Denmark  
Borchert, Torben Vedel, Jyllinge, Denmark  
Bisg.ang.rd-Frantzen, Henrik, Bagsv.ae butted.rd,  
Denmark  
PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsv.ae butted.rd, Denmark (non-U.S.  
corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6143708		20001107
APPLICATION INFO.:	US 1998-182859		19981029 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 1997-DK197, filed on 30 Apr 1997		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1996-515	19960430
	DK 1996-712	19960628
	DK 1996-775	19960711
	DK 1996-1263	19961108
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Achutamurthy, Ponnathapu	
ASSISTANT EXAMINER:	Saidha, Tekchand	
LEGAL REPRESENTATIVE:	Zelson, Esq., Steve T., Green, Esq., Reza, Lambiris, Esq., Elias J.	
NUMBER OF CLAIMS:	92	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 9 Drawing Page(s)	
LINE COUNT:	3105	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 13 OF 20 USPATFULL on STN

TI Mutant  $\alpha$ -amylase comprising modification at residues corresponding to A210, H405 and/or T412 in Bacillus licheniformis

AB Novel  $\alpha$ -amylase enzymes are disclosed in which one or more of residues corresponding to A210, H405 and T412 in Bacillus licheniformis are mutated. The disclosed  $\alpha$ -amylase enzymes show altered or improved stability and/or activity profiles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:80576 USPATFULL  
TITLE: Mutant  $\alpha$ -amylase comprising modification at residues corresponding to A210, H405 and/or T412 in Bacillus licheniformis  
INVENTOR(S): Day, Anthony G., San Francisco, CA, United States  
Swanson, Barbara A., San Francisco, CA, United States  
PATENT ASSIGNEE(S): Genencor International, Inc., Rochester, NY, United States (U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 6080568 20000627  
 APPLICATION INFO.: US 1997-914679 19970819 (8)  
 DOCUMENT TYPE: Utility  
 FILE SEGMENT: Granted  
 PRIMARY EXAMINER: Prouty, Rebecca E.  
 ASSISTANT EXAMINER: Slobodyansky, Elizabeth  
 LEGAL REPRESENTATIVE: Stone, Christopher L.  
 NUMBER OF CLAIMS: 11  
 EXEMPLARY CLAIM: 1  
 NUMBER OF DRAWINGS: 9 Drawing Figure(s); 9 Drawing Page(s)  
 LINE COUNT: 1375  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 14 OF 20 USPATFULL on STN

TI  $\alpha$ -amylase mutants

AB The present invention relates to a method of constructing a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has  $\alpha$ -amylase activity and at least one altered property as compared to the parent  $\alpha$ -amylase, comprises

i) analyzing the structure of the parent Termamyl-like  $\alpha$ -amylase to identify at least one amino acid residue or at least one structural part of the Termamyl-like  $\alpha$ -amylase structure, which amino acid residue or structural part is believed to be of relevance for altering the property of the parent Termamyl-like  $\alpha$ -amylase (as evaluated on the basis of structural or functional considerations),

ii) constructing a Termamyl-like  $\alpha$ -amylase variant, which as compared to the parent Termamyl-like  $\alpha$ -amylase, has been modified in the amino acid residue or structural part identified in i) so as to alter the property, and, optionally,

iii) testing the resulting Termamyl-like  $\alpha$ -amylase variant with respect to the property in question.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 2000:15500 USPATFULL

TITLE:  $\alpha$ -amylase mutants

INVENTOR(S): Svendsen, Allan, Birkerød, Denmark  
 Bisgaard-Frantzen, Henrik, Lyngby, Denmark  
 Borchert, Torben, Copenhagen N, Denmark

PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsværd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6022724		20000208
APPLICATION INFO.:	US 1996-683838		19960718 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 600908		

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1995-128	19950203
	DK 1995-1192	19951023
	DK 1995-1256	19951110
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Wax, Robert A.	
ASSISTANT EXAMINER:	Slobodyansky, Elizabeth	
LEGAL REPRESENTATIVE:	Zelson, Esq., Steve T., Green, Esq., Reza	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 13 Drawing Page(s)	

LINE COUNT: 3700  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 15 OF 20 USPATFULL on STN  
TI Mutant  $\alpha$ -amylase having introduced therein a disulfide bond  
AB Novel  $\alpha$ -amylase enzymes are disclosed in which one or more disulfide bonds are introduced into the enzyme via addition or substitution of a residue with a cysteine. The disclosed  $\alpha$ -amylase enzymes show altered or improved stability and/or activity profiles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1999:170419 USPATFULL  
TITLE: Mutant  $\alpha$ -amylase having introduced therein a disulfide bond  
INVENTOR(S): Day, Anthony G., San Francisco, CA, United States  
PATENT ASSIGNEE(S): Genencor International, Inc., Rochester, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6008026		19991228
APPLICATION INFO.:	US 1997-890383		19970711 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Sisson, Bradley L.		
ASSISTANT EXAMINER:	Stole, Einar		
LEGAL REPRESENTATIVE:	Stone, Christopher L.	Genencor International, Inc.	
NUMBER OF CLAIMS:	15		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	7 Drawing Figure(s); 10 Drawing Page(s)		
LINE COUNT:	1376		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 16 OF 20 USPATFULL on STN  
TI  $\alpha$ -amylase mutants  
AB The present invention relates to a method of constructing a variant of a parent Termamyl-like  $\alpha$ -amylase, which variant has  $\alpha$ -amylase activity and at least one altered property as compared to the parent  $\alpha$ -amylase, comprising i) analyzing the structure of the parent Termamyl-like  $\alpha$ -amylase to identify at least one amino acid residue or at least one structural part of the Termamyl-like  $\alpha$ -amylase structure, which amino acid residue or structural part is believed to be of relevance for altering the property of the parent Termamyl-like  $\alpha$ -amylase (as evaluated on the basis of structural or functional considerations), ii) constructing a Termamyl-like  $\alpha$ -amylase variant, which as compared to the parent Termamyl-like  $\alpha$ -amylase, has been modified in the amino acid residue or structural part identified in i) so as to alter the property, and iii) testing the resulting Termamyl-like  $\alpha$ -amylase variant for the property in question.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1999:150274 USPATFULL  
TITLE:  $\alpha$ -amylase mutants  
INVENTOR(S): Svendsen, Allan, Birkerød, Denmark  
Bisg.ang.rd-Frantzen, Henrik, Lyngby, Denmark  
Borchert, Torben Vedel, Copenhagen N, Denmark  
PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5989169		19991123

APPLICATION INFO.: US 1996-600908 19960213 (8)  
RELATED APPLN. INFO.: Continuation of Ser. No. WO 1996-DK57, filed on 5 Feb 1996

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1995-128	19950203
	DK 1995-1192	19951023
	DK 1995-1256	19951110
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Wax, Robert A.	
ASSISTANT EXAMINER:	Slobodyansky, Elizabeth	
LEGAL REPRESENTATIVE:	Zelson, Esq., Steven T., Green, Esq., Reza	
NUMBER OF CLAIMS:	23	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 13 Drawing Page(s)	
LINE COUNT:	3521	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 17 OF 20 USPATFULL on STN  
TI Mutant  $\alpha$ -amylase  
AB Novel  $\alpha$ -amylase enzymes are disclosed in which one or more asparagine residues are substituted with a different amino acid or deleted. The disclosed  $\alpha$ -amylase enzymes show altered or improved low pH starch hydrolysis performance, stability and activity profiles.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1999:117311 USPATFULL  
TITLE: Mutant  $\alpha$ -amylase  
INVENTOR(S): Mitchinson, Colin, Palo Alto, CA, United States  
Requadt, Carol, Palo Alto, CA, United States  
Ropp, Traci, Palo Alto, CA, United States  
Solheim, Leif P., Palo Alto, CA, United States  
Ringer, Christopher, Palo Alto, CA, United States  
Day, Anthony, Palo Alto, CA, United States  
PATENT ASSIGNEE(S): Genencor International Inc., Rochester, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5958739		19990928
	WO 9639528		19961219
APPLICATION INFO.:	US 1997-704706		19970220 (8)
	WO 1996-US9089		19960606
			19970220 PCT 371 date
			19970220 PCT 102(e) date

DOCUMENT TYPE: Utility  
FILE SEGMENT: Granted  
PRIMARY EXAMINER: Wax, Robert A.  
ASSISTANT EXAMINER: Stole, Einar  
LEGAL REPRESENTATIVE: Stone, Christopher L.  
NUMBER OF CLAIMS: 32  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 13 Drawing Figure(s); 17 Drawing Page(s)  
LINE COUNT: 1950  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 18 OF 20 USPATFULL on STN  
TI Amylase variants  
AB A variant of a parent  $\alpha$ -amylase enzyme having an improved washing and/or dishwashing performance as compared to the parent enzyme, wherein one or more amino acid residues of the parent enzyme have been replaced



by a different amino acid residue and/or wherein one or more amino acid residues of the parent  $\alpha$ -amylase have been deleted and/or wherein one or more amino acid residues have been added to the parent  $\alpha$ -amylase enzyme, provided that the variant is different from one in which the methionine residue in position 197 of a parent B. licheniformis  $\alpha$ -amylase has been replaced by alanine or threonine, as the only modification being made. The variant may be used for washing and dishwashing.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:134986 USPATFULL  
TITLE: Amylase variants  
INVENTOR(S): Bisg.ang.rd-Frantzen, Henrik, Lyngby, Denmark  
Borchert, Torben Vedel, K.o slashed.benhavn, Denmark  
Svendsen, Allan, Birker.o slashed.d, Denmark  
Thellersen, Marianne, Frederiksberg, Denmark  
Van der Zee, Pia, Virum, Denmark  
PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5830837		19981103
APPLICATION INFO.:	US 1994-343804		19941122 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Wax, Robert A.		
ASSISTANT EXAMINER:	Saidha, Tekchand		
LEGAL REPRESENTATIVE:	Zelson, Esq., Steve T., Agris, Esq., Cheryl H.		
NUMBER OF CLAIMS:	42		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	12 Drawing Figure(s); 12 Drawing Page(s)		
LINE COUNT:	2719		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 19 OF 20 USPATFULL on STN

TI Amylase variants

AB A variant of a parent  $\alpha$ -amylase enzyme having an improved washing and/or dishwashing performance as compared to the parent enzyme, wherein one or more amino acid residues of the parent enzyme have been replaced by a different amino acid residue and/or wherein one or more amino acid residues of the parent  $\alpha$ -amylase have been deleted and/or wherein one or more amino acid residues have been added to the parent  $\alpha$ -amylase enzyme, provided that the variant is different from one in which the methionine residue in position 197 of a parent B. licheniformis  $\alpha$ -amylase has been replaced by alanine or threonine, as the only modification being made. The variant may be used for washing and dishwashing.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:104616 USPATFULL  
TITLE: Amylase variants  
INVENTOR(S): Bisg.ang.rd-Frantzen, Henrik, Lyngby, Denmark  
Borchert, Torben Vedel, K.o slashed.benhavn, Denmark  
Svendsen, Allan, Birker.o slashed.d, Denmark  
Thellersen, Marianne, Frederiksberg, Denmark  
Van der Zee, Pia, Virum, Denmark  
PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5801043		19980901

APPLICATION INFO.: US 1995-459610 19950602 (8)  
RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-343804, filed on 22  
Nov 1994

	NUMBER	DATE
PRIORITY INFORMATION:	DK 1993-1133	19931008
	DK 1994-140	19940202
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Wax, Robert A.	
ASSISTANT EXAMINER:	Saidha, Tekchand	
LEGAL REPRESENTATIVE:	Zelson, Esq., Steve T., Agris, Esq., Cheryl H.	
NUMBER OF CLAIMS:	36	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	12 Drawing Figure(s); 12 Drawing Page(s)	
LINE COUNT:	2728	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 20 OF 20 USPATFULL on STN

TI Amylase variants

AB A variant of a parent  $\alpha$ -amylase enzyme having an improved washing and/or dishwashing performance as compared to the parent enzyme, wherein one or more amino acid residues of the parent enzyme have been replaced by a different amino acid residue and/or wherein one or more amino acid residues of the parent  $\alpha$ -amylase have been deleted and/or wherein one or more amino acid residues have been added to the parent  $\alpha$ -amylase enzyme, provided that the variant is different from one in which the methionine residue in position 197 of a parent B. licheniformis  $\alpha$ -amylase has been replaced by alanine or threonine, as the only modification being made. The variant may be used for washing and dishwashing.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER: 1998:54708 USPATFULL  
TITLE: Amylase variants  
INVENTOR(S): Bisgard-Frantzen, Henrik, Lyngby, Denmark  
Borchert, Torben Vedel, K.o slashed.benhavn N, Denmark  
Svendsen, Allan, Birker.o slashed.d, Denmark  
Thellersen, Marianne, Frederiksberg C, Denmark  
Van der Zee, Pia, Virum, Denmark  
PATENT ASSIGNEE(S): Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5753460		19980519
APPLICATION INFO.:	US 1996-720899		19961010 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1995-459610, filed on 2 Jun 1995 which is a continuation of Ser. No. US 1994-343804, filed on 22 Nov 1994 which is a continuation of Ser. No. US 1994-321271, filed on 11 Oct 1994, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Wax, Robert A.		
ASSISTANT EXAMINER:	Saidha, Tekchand		
LEGAL REPRESENTATIVE:	Zelson, Esq., Steve T., Agris, Esq., Cheryl H.		
NUMBER OF CLAIMS:	31		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	12 Drawing Figure(s); 12 Drawing Page(s)		
LINE COUNT:	2729		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

# Refine Search

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US Pre-Grant Publication Full-Text Database

US Patents Full-Text Database

US OCR Full-Text Database

EPO Abstracts Database

JPO Abstracts Database

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## Search History

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<u>L12</u>	L10 and (His15)	0	<u>L12</u>
<u>L11</u>	L10 and (Ser187)	0	<u>L11</u>
<u>L10</u>	L9 and (mutation)	9329	<u>L10</u>
<u>L9</u>	L8 and l7	20052	<u>L9</u>
<u>L8</u>	(alkaline protease)	243976	<u>L8</u>
<u>L7</u>	L6 and (alkaline)	20052	<u>L7</u>
<u>L6</u>	protease	40729	<u>L6</u>
<u>L5</u>	okuda.in.	1494	<u>L5</u>
<u>L4</u>	7101698.pn.	1	<u>L4</u>
<u>L3</u>	6803222.pn.	1	<u>L3</u>
<u>L2</u>	6759228.pn.	1	<u>L2</u>
<u>L1</u>	6376227.pn.	1	<u>L1</u>

END OF SEARCH HISTORY